

*Brown* *(113)* *The Compliments of the*  
*author*

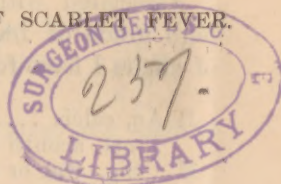
[Reprinted from THE AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN, Vol. XVIII., November, 1885.]

## OBSERVATIONS ON THE TREATMENT OF SCARLET FEVER.

BY

BEDFORD BROWN, M.D.,

Alexandria, Va.



THE practical questions to be considered in the treatment of scarlet fever are the grade of temperature, the frequency of the pulse, the extent of pharyngitis and of cervical adenitis, the degree of vital and nervous prostration, the condition of the renal organs, and the state of digestion.

All who are familiar with the history of the disease are cognizant of its wonderful variety of pathological features and complications which renders it necessary that we should ever be on the alert if success is to be expected.

In the treatment of all serious cases of scarlet fever I believe it to be a safe rule to adopt, that the strength of the patient should be husbanded rigidly, and that we should scrupulously avoid doing anything to impair it. Whatever measures may be adopted for the reduction of fever should be in the interest of economizing the strength of the patient.

But few diseases are subject to so high a range of temperature as scarlet fever. Hence this is a question we have to meet at a very early stage of all grave cases.

While it is true that a very high temperature and frequent pulse, if long continued, will destroy life, we should do nothing to aid in that process in our efforts to reduce it.

In a great majority of serious cases, there is one very great difficulty which is almost certain to meet us at the very threshold; that is, nausea or vomiting.

When long continued and persistent, they exert a very damaging influence on the strength and vital powers of the patient; not only this, but in addition they deprive him of nourishment and medicine, while the vital fluids are undergoing rapid disorganization. Twenty-four or forty-eight hours of incessant vomiting will often run the vital powers of the patient down to a point where he is beyond the pale of treat-

ment. The extent and degree of this symptom usually constitute a measure of the gravity of the case.

Associated with this symptom there is generally a very high grade of fever and frequent pulse. In this condition of affairs I have found the following formula useful.

R Aq. calcis ..... fl.  $\frac{3}{4}$  ij.  
Tinct. aconiti rad. .... gtt. xij.

M. Sig. One or two teaspoonsful to a child of one or two years every two hours.

The dose should be administered each time with a small quantity of cracked ice.

If there is much reduction of pulse and general depression, the aconite should be omitted, and the arom. spts. of ammon. in small doses substituted. When these remedies have failed to arrest vomiting, then a teaspoonful of lime-water containing one drop of chloroform and one-fourth of a drop of creasote, given every two hours in mucilage with ice.

These combinations will also accomplish much in reducing temperature. In very high grades of fever, when vomiting and nausea are not present, the following antipyretic combination I have resorted to with very decided benefit. It not only reduces fever, but acts as a diaphoretic and diuretic also.

R Aquæ .....  $\frac{3}{4}$  ij.  
Arom. spts. ammon ..... 3 ij.  
Sodæ bicarb. .... 3 ij.  
Acid. salicyl. .... 3 ij.  
Tinct. aconiti rad. .... gtt. xij.  
Syrup. aurantii cort. .... 3 i.  
Tinct. digitalis ..... 3 i.

M. Sig. Two teaspoonsful may be given in ice every two or three hours to a child of five years.

In the more malignant forms of the disease, characterized by a very high temperature, 106° or more under the axilla or in the rectum, with cool extremities, a very frequent pulse, rather livid complexion, and tendency to somnolence, of course our remedies and adjuvants should be of a sustaining and restorative kind. While it is only too true that these cases usually terminate fatally, the restoratives which have acted most efficiently in my hands in staying the tendency to prostration are contained in this prescription.



R Arom. spts. ammon.....	ss.
Spts. vin. gal.....	iss.
Chloroformi.....	ss.
Ether. sulphurici.....	3 i.
Mucilag. acac.....	ss.
Caffeini citratis.....	℥ i.
Syrup simp.....	ss.
Aq. menth. pip.....	ss.

M. Sig. Of this two teaspoonsful may be given to a child of four or five years every two hours.

The cold bath as an antipyretic, in my practice, has not been followed by favorable results. In very violent cases, the too frequent use of the bath at any temperature, when it has to be continued for many days, becomes exhausting. I believe that the wet pack after one or two good tepid baths, resorted to in the beginning, administered at a temperature of 75 or 80° twice daily, is usually sufficient to moderate the temperature to a safe degree. But however important the question of pyrexia may be, nevertheless we may be injudicious in indiscriminate efforts to repress it by over-active measures. A patient with a temperature of 104°, if properly sustained by a judicious system of nourishment and support, will probably survive for many days and even weeks, with but little medication addressed to the fever.

A temperature over 105° indicates danger from the disorganizing action of heat on the fluids and tissues, and of course calls for means, not to reduce it to the normal standard, but to bring it to a safe point, where the system may rest in safety until it has thrown off the poison of infection.

Hence in many of these cases of high temperature, it requires but little antipyretic agency to reduce temperature to a level of safety and retain it there.

I have repeatedly seen scarlet fever cases in which the temperature would average 104°, continue for from four to six weeks because of adenitis or suppurative action, and recover.

For a prolonged case of the pyogenic form of scarlet fever, where there is suppuration, in the petrous portion of the temporal bone or some other point as a beginning, the internal use of a combination of quinine, tinct. of the chloride of iron, and Fowler's solution of arsenic, is superior to all other remedies. The arsenic should be given in very minute doses, as its use is to be maintained for a lengthy period.

The fever of scarlatinous pyemia observes the remittent in type. The evening exacerbations may present a temperature of  $105^{\circ}$ , while the morning remissions will reduce it to  $100^{\circ}$  or  $101^{\circ}$ . In this way the patient has a relief from high temperature during from eight to ten hours each day.

Probably of all antipyretics, quinine is the most permanent in its action. In the early and middle stages of the more violent forms of the disease I have not seen it accomplish much good, probably because it cannot be used in sufficiently large quantities, because of rejection by the stomach.

In the more grave forms of the disease, when life is in imminent danger from tendency to prostration, regardless of high temperature, for the purpose of sustaining the system until the terrible storm passes over, alcoholic stimulants are essential. To accomplish good, they must be given with a liberal hand. About their propriety there can be no doubt. The great difficulty in the way, in these dangerous cases, is either the refusal of the patient to take them, or their rejection by the stomach.

It is our duty, in these unpleasant cases, to present stimulants and nourishment to patients in such form, if possible, as will tempt the palate. In a case of retro-pharyngeal abscess of protracted character occurring in scarlatina, when the little patient refused everything, and death from starvation seemed to be pending, it was accidentally discovered that he was partial to ice-cream and bananas combined.

They proved to be his sole means of sustenance for many days.

We certainly so far possess no antidote to the poison of scarlatina. We are, therefore, under the necessity of applying means to counteract the effects of that peculiar poison; as in the case of the poisons of venomous reptiles or insects.

We are, to a certain extent, enabled to sustain the vital functions of the system until the poisonous material is eliminated. It is equally true in scarlatinous poisoning, when life is endangered, that in the event that the great functions of that life—as the action of the heart, the functions of respiration, of hematosiis, of digestion and assimilation—are sustained in operation by the influence of potent stimulants, many cases might survive that would otherwise perish.



I am convinced that a certain proportion of dangerous cases of this disease can be saved, and that alone at our present stage of knowledge, by the free use of alcoholic stimulants in combination with ammonia, preferably in the form of the aromatic spirits.

Spts. vin. gal.,  $\bar{3}$  ij. ; Spts. ammon. arom., 3 ij. ; Aq. cinnamo., 3 iij. ; Syr. simp., 3 iij. ; is a very convenient form to administer stimulants. Two or three teaspoonsful of this preparation may be given diluted every two or three hours. I find that iced milk with one-third lithia water, and a small amount of bicarbonate of soda, constitutes a nutriment suitable for all stages of scarlet fever. This may be given freely and regularly as a refreshing drink.

Accumulating experience only tends to convince me of the importance of directing special treatment to the local symptoms of scarlet fever, by maintaining cleanliness of the parts involved, by antiseptic application, and the use of those agents which tend to soothe irritation.

In some recent cases of the anginose variety of scarlet fever I have been testing the local effects of a solution of two per cent of muriate of cocaine on the inflamed surface of the pharynx and tonsils. By means of a small hand-atomizer, the spray is thrown on the fauces for a few moments every three or four hours. The object has been by this agency to relieve hyperesthesia, to allay pain and irritation, and in addition to reduce engorgement of the parts. I have found the agent to exert these influences in a very decided degree, and in this way not only to aid the act of deglutition, but greatly to add to the comfort of the patient, and to diminish inflammatory action. The fauces is the original point for the absorption of scarlatinous poison, and constitutes the initiatory locality for the development of that peculiar inflammation which continues to afford infectious matter for absorption and infection of neighboring tissues. Hence, certain grave complications and sequelæ always cluster around this central point or circle of morbid action, in the form of inflammation of the Eustachian tubes, otitis, inflammation of sublingual and cervical glands cellulitis, and tonsillitis.

If these unpleasant sequences can be prevented, the patient

is then placed in a position far advanced towards a favorable result of his case.

As a means of cleansing and disinfecting the throat, which is always obstructed with accumulating offensive secretions, I have resorted to the following application, always with benefit:

R Aq. picis. liq. ....	3 iss.
Acid. carbol. ....	gtt. iij.
Sod. bicarb. ....	3 ss.
Acid. benzoici. ....	3 i.
Sod. boratis. ....	3 ij.
Mucilag. acac. ....	3 iiss.
M.	

In my experience, applications of this kind should be made to the throat, either in scarlet fever or diphtheria, alone by means of a small globe syringe. The tongue is depressed with a spoon-handle, the nozzle of the syringe placed over the dorsum, and the fluid suddenly injected against the fauces, and the little operation is effectually performed. This operation, to effect good results, should be repeated frequently. This preparation is also useful as a means of cleansing the nostrils and nasal cavities in scarlatinous catarrh. These local remedies will do much to prevent and relieve angina. In all grave cases of scarlet fever, the nasal cavities participate in the disease more or less in extent, in the form of dangerous septic catarrh, which is certain to generate a poisonous matter that will surely infect the cervical lymphatic glands and end in adenitis. As a centre of infection, and a means of obstructing respiration, we cannot well over-estimate the importance of scarlatinous nasal catarrh.

As adenitis of the cervical glands is an invariable sequence of septic nasal catarrh, in treating the latter we do not only treat the catarrhal affection, but the glandular also. Indeed, it is rather astonishing, under successful treatment of the infectious catarrh, how rapidly the adenitis will subside. Apart from removing the common cause of these cases of adenitis which continues, while in existence, to maintain the affection of the glands, there are no other reliable remedies. They stand in the same relation as cause and effect as that of chancre and bubo.

When, during the progress of scarlet fever, the earliest



symptoms of nasal catarrh manifest themselves, in the form of slight discharge from the nostrils, the nasal rattle, snoring respiration, and difficulty of inspiration, followed by enlargement of the cervical glands, the catarrhal affection should be promptly treated.

For some time past I have been impressed with the value of oleaginous menstrua, for holding in suspension antiseptic and other substances, in preference to water as an application to the nasal cavities. The oils seem to act as a soothing agent to the inflamed surface, softening the inspissated matters and dislodging them more effectually than any other fluid. By enveloping infectious matter, isolating it, and coating over the mucous membrane, they retard absorption and allay irritation.

Whether the theory be correct or not, the practical results of the treatment have been exceedingly favorable. In numerous grave cases of scarlet fever complicated with infectious catarrh and rapidly increasing cervical adenitis, I have, by using faithfully the following prescription, been enabled to subdue the catarrhal affection, rob it of much of its infectious character, and reduce with astonishing rapidity the glandular affection :

R̄ Ol. Olivæ.....	fl. ʒ iij.
Vaselín. . . . .	ʒ i.
Acid. Carbol. . . . .	gtt. iij.
Sod. Bicarb. . . . .	grs. xx.
Sod. Boratis. . . . .	ʒ ij.
Ol. Pic. Liq. . . . .	gtt. ij.

M. Sig. To be injected into the nostrils and nasal cavities every two or three hours.

The preparation, before being used, should be slightly warmed. I have used the same prescription with favorable results in the nasal catarrh of diphtheria. The oily application generally succeeds in removing the accumulated secretions effectually, and maintains perfect cleanliness and deodorization.

During the progress of scarlet fever a peculiar morbid element is often generated in the system which develops a rheumatic diathesis that locates itself on the fibro-serous structures of the heart in the form of a very dangerous septic endo- or pericarditis. Under these circumstances the action of the heart becomes exceedingly frequent and often irregular, while

the impulse becomes violent and tumultuous. These symptoms may be mistaken for simple increase of fever.

The few cases of this kind, when valvular murmurs or friction sounds have been present, which have come under my observation of late, have been treated by the following:

R Acid. Salicyl.....	3 i.
Potass. Bicarb.....	3 ij.
Aquæ.....	ij.
Glycerin.....	i.
Tinct. Verat. Vir.....	gtt. xij.

M. Sig. Two teaspoonsful to a child of three or four years every three hours.

In all serious cases of nephritis accompanied with dropsical effusion, it is my habit to envelop the body from the armpits to below the hips with spongio-piline, saturated with hot water, frequently renewed, and covered with oiled silk. This is used in preference to the ordinary poultice, as being more agreeable in every way to the patient, and less heavy. In those cases attended with extensive effusion in the cavities, threatening apnea, scanty high-colored or bloody urine, dry skin, even in a child of four or five years, a large dose of submur. hydrarg., at least ten grains, as a preliminary to other treatment, manifestly gives an impetus to the secretions which no other agent does. This should be followed by frequently repeated doses of the comp. powder of jalap in suitable quantities until copious intestinal discharges are produced.

This procedure always causes relief, though it may be but transient. The object is to relieve the lungs and heart, if only for the time being.

This class of cases bears purgation to an extraordinary degree.

I can recall to memory one case of the kind in which the anasarca, ascites, edema of the lungs, and pleural effusion existed to an enormous extent. The urine amounted to only  $\bar{3}$  ij. per day, and half of that was blood and albumin.

The child, about 6 years old, was in the most imminent danger of suffocation. The treatment was premised with a large dose of calomel, followed twice daily by full doses of the comp. jalap powder. This treatment maintained a



copious drainage of serum, which preserved life. In connection with these measures, *infus. digitalis*, bicarbonate of potash, and the acetate of potash were used regularly. I believe that the alkaline diuretics, in sufficient quantity to maintain a perfectly neutral state of the urine, are essential in these cases. The hot-air bath I have found useful also in renal dropsy. The patient is placed on a wooden-bottom chair, enveloped in a blanket or comfort from the chin to the floor. Underneath the chair are placed two alcohol lamps burning brightly. As the hot air surrounds the body of the patient, the skin begins to act freely. When the perspiration becomes well established, the patient is placed in bed without disturbing the enveloping blankets, and permitted to luxuriate in a copious perspiration. The pilocarpine, as a diaphoretic, has disappointed me because of its uncertainty of action and its unpleasant effects on the stomach.

Those cases of dropsy attended with great debility, pallor of complexion, feeble pulse, scanty urine, cool skin, and not inordinate effusion, I have treated by means of the tartrate of iron and potash, the acetate and bicarbonate of potash, and infusion of *digitalis*, in connection with the lithiated milk diet.

